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MEETING NOTES

TO: Distribution **DATE:** March 22, 1994

FROM: Philip Nixon **PROJECT:** Solar Pond IM/IRA

MEMO #: SP307:032294:02

ATTENDENCE:

Steve Howard, DOE/SMS
Phil Nixon, ES
Lee Pivonka, G&M
Harlen Ainscough, CDH
Scott Surovchak, DOE
Steve Paris, EG&G
Pat Breen, ES
Arturo Duran, EPA
Cindy Gee, ES
Peg Witherill, DOE
Steve Keith, EG&G
John Haasbeek, ERM
Shaleigh Whitesell, G&M
John Rampe, DOE
Richard Henry, ES
Will Barnard, ES
Ron Schmiermund, ES
John Hicks, ES
John Evans, ES

DISTRIBUTION:

Dave Ericson, EG&G
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W. Edmonson, ES
B. Wallace EG&G (Admin. Record) (2)
S. Hughes, ES
K. London, EG&G
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Helen Belencan, DOE
Steve Howard, DOE/SMS
John Evans, ES
Steve Cooke, EG&G
Joe Schieffelin, CDH
Dave Myers, ES
R. Wilkinson, ES
S. Winston, ES
Kim Ruger, EG&G
Michelle McKee, EG&G
Marcia Dibiasi, IGO
Rich Stegen, ES
Bob Siegrist, LATO
Kevin Loos, DOE
Frazer Lockhart, DOE
Toni Moore, EG&G
Will Barnard, ES
Andy Ledford, EG&G
Harry Heidkamp, ES
Alan McGregor, ERM
Ted Kearns, DOE/KMI

SUBJECT: Weekly Status Meeting

(I:\PROJECTS\722446\CORRESP\03229402.WPF\03/28/94)

1) Finalization of the Review Schedule

CDH, EPA, and DOE have agreed to a 43 day schedule extension. DOE is preparing a letter for CDH and EPA concurrence that changes the 6 IAG milestones. The date for the first IAG submittal will be May 27, 1994.

It was discussed that further schedule extension might be required as EG&G/DOE are planning to conduct liner/soil leachability studies. The results of these studies may impact the design of the SEP closure. Changes to the closure strategy could cause a further impact to the schedule. The 43 day schedule extension will culminate in a revised IM/IRA-EA decision document that assumes the current baseline. **EG&G/DOE will replan the project baseline during the extended review period and propose a further scheduled extension if necessary to investigate or incorporate changes to the baseline.**

2) Liner/Soil Leachability Testing

Steve Howard indicated that the DOE was committed to conducting tests to obtain liner/soil leachability data. It is recognized that this data may be useful for:

- Determining whether contaminated soils can be left in place for potential contact with ground water.
- Determining whether the liners can be considered innocuous with respect to the Colorado Hazardous Waste Landfill Siting Criteria.
- Providing site specific information to support or refute the assumptions that were incorporated within the fate and transport modeling.

Andy Ledford indicated that DOE/EG&G may decide that it is most efficient with respect to cost and schedule to maintain a conservative design baseline and move forward with the design aspect of the program in parallel with conducting the liner/soil leachability studies. Harlen Ainscough indicated that this would be acceptable if the decision to move forward would be protective of human health and the environment. This could include excavating contaminated soils that have the potential to be in contact with ground water.

3) Removal of the Phase II work plan from the IM/IRA decision document

EPA has recommended that the Phase II work plan be removed from the IM/IRA-EA decision document so that approval of the decision document does not hold up the Phase II field activities.

A decision on this issue will be made and presented at the next team meeting.

4) Review Comments on Part VI

ES received comments on the Phase II Work Plan (Part VI). Comments were provided by ERM/G&M, SAIC, and Steve Paris of EG&G. The significant comments are highlighted below:

- The alluvium and the weathered bedrock are chemically (major ions) and hydraulically connected. A question was raised as to whether a well could be screened across both units. This is currently outside the RFP Standard Operating Procedures. ERM/G&M expressed an interest that the post closure monitoring wells might benefit from having an extended screen zone. This might be acceptable because the post-closure care plan will not be approved until after the closure is complete. The Phase II data will be available to guide the decision. Will Barnard indicated that the Phase II program wells would be screened in the discrete aquifer units to determine the contaminant flow and transport within the individual units.

- It was decided to reject a comment requesting separate Phase I and II RCRA facility Investigation/Remedial Investigation (RFI/RI) programs be conducted with two separate feasibility studies. The proposed strategy is contrary to the IAG and the IAG dispute resolution. The formal corrective measures study/ Feasibility Study will be conducted at the conclusion of the Phase II RFI/RI program to address ground water remediation and residual soil remediation.

- EG&G requested that ES submit the data that was used to create the potentiometric maps.

Philip A. Nixon

Attachment 1
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TEAM MEETING

March 29, 1994

AGENDA

- Removal of the Phase II Work Plan from the IM/IRA-EA dd
- Strategy for developing PRGs/COCs for ground water protection
- Roundtable Review Comments for Parts I, II, and III

POTENTIAL COMPARISON CRITERIA FOR MODELED GROUNDWATER AT THE SOLAR EVAPORATION PONDS OU 4 OF THE ROCKY FLATS PLANT

Comparison Criteria will be developed by identifying human health promulgated criteria that may apply to conditions at the Solar Evaporation Ponds.

Selected promulgated criteria will include only Colorado Groundwater Protection standard.

Wherever promulgated criteria were not available, risk–based preliminary remediation goals (PRGs) will be calculated using un–modified EPA guidance in RAGS, Part B.

No consideration is being given to ecological criteria.

PRG water calculation will not be modified to incorporate CDH guidance, as was done for the soil PRGs.

Promulgated comparison criteria are NOT ARARs. They will only be used for comparison to modeled groundwater concentrations.

Final Product will be SOIL PRGs protective of groundwater.

Routes of Exposure are ingestion and inhalation.

Attachment 2
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TABLE 1

RESIDENTIAL USE OF GROUNDWATER - PRG CALCULATIONS FOR NONCARCINOGENIC EFFECTS
ROCKY FLATS PLANT, GOLDEN, CO

$$THI = \frac{C \times IRw \times EF \times ED}{RfDo \times BW \times AT} + \frac{C \times K \times IRa \times EF \times ED}{RfDi \times BW \times AT}$$

$$C\ (mg/L) = \frac{THI \times BW \times AT}{EF \times ED \times [(1/RfDi \times K \times IRa) + (1/RfDo \times IRw)]}$$

where:

Parameters	Definition (units)	Default Value
C	chemical concentration in water (mg/L)	-
THI	target hazard index (unitless)	1
RfD_o	oral chronic reference dose (mg/kg-day)	chemical-specific
RfDi	inhalation chronic reference dose (mg/kg/day)	chemical-specific
BW	adult body weight (kg)	70 kg
AT	average time (days)	ED x 365 days/yr
EF	exposure frequency (days/yr)	350 days/yr
ED	exposure duration (yr)	30 yr
IRw	daily water ingestion rate (L/day)	2 L/day
IRa	daily indoor inhalation rate (m^3/day)	15 m^3/day
K	volatilization factor (unitless)	0.0005 x 1000 L/m^3

Source: RAGS Part B

TABLE 2

RESIDENTIAL USE OF GROUNDWATER - PRG CALCULATIONS FOR CARCINOGENIC EFFECTS
ROCKY FLATS PLANT, GOLDEN, CO

$$TR = \frac{SFo \times C \times IRw \times EF \times ED}{BW \times AT} + \frac{SFi \times C \times K \times IRa \times EF \times ED}{BW \times AT}$$

$$C\ (mg/L) = \frac{TR \times BW \times AT}{EF \times ED \times [(SFi \times K \times IRa) + (SFo \times IRw)]}$$

where:

Parameters	Definition (units)	Default Value
C	chemical concentration in soil (mg/kg)	-
TR	target excess individual lifetimecancer risk (unitless)	10^{-6}
SFo	oral cancer slope factor (1/mg/kg-day)	chemical-specific
SF_i	inhalation cancer slope factor (1/mg/kg-day)	chemical-specific
BW	adult body weight (kg)	70 kg
AT	average time (days)	70 yr x 365 days/yr
EF	exposure frequency (days/yr)	350 days/yr
ED	exposure duration (yr)	30 yr
IRa	daily indoor inhalation rate (m^3/day)	15 m^3/day
IRw	daily water ingestion (L/day)	2 L/day
K	volatilization factor (unitless)	0.0005 x 1000 L/m^3

Source: RAGS Part B

Attachment 2
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